What is claimed is:

1. A surface acoustic wave device comprising:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode constituting the comb electrode set including:

a plurality of electrode fingers; and

a bus bar connecting the plurality of electrode fingers in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

a thick film thicker than each plurality of electrode fingers is produced in a partial area of the bus bar, and

a tip gap is provided between the top of each plurality of electrode fingers and the end face of the opposed bus bar, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

2. A surface acoustic wave device comprising:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode constituting the comb electrode

set including:

a plurality of electrode fingers and a plurality of dummy electrodes disposed alternately; and

a bus bar connecting the plurality of electrode fingers and the plurality of dummy electrodes in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

a tip gap is provided between the top of each plurality of electrode fingers and the top of the opposed dummy electrode, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

3. A surface acoustic wave device comprising:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

three sets of comb electrodes formed between the pair of reflective electrodes,

each comb electrode constituting the comb electrode set including:

a plurality of electrode fingers and a plurality of dummy electrodes disposed alternately; and

a bus bar connecting the plurality of electrode fingers and the plurality of dummy electrodes in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

a tip gap is provided between the top of each plurality of electrode fingers and the top of the opposed dummy electrode, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

4. A surface acoustic wave device comprising a plurality of resonators connected into a ladder shape, each resonator including:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode of the comb electrode set constituting the resonator having:

a plurality of electrode fingers and a plurality of dummy electrodes disposed alternately; and

a bus bar connecting the plurality of electrode fingers and the plurality of dummy electrodes in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

a tip gap is provided between the top of each plurality of electrode fingers and the top of the opposed dummy electrode, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

5. A surface acoustic wave device comprising a

plurality of resonators connected into a lattice shape, each resonator including:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode of the comb electrode set constituting the resonator having:

a plurality of electrode fingers and a plurality of dummy electrodes disposed alternately; and

a bus bar connecting the plurality of electrode fingers and the plurality of dummy electrodes in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

a tip gap is provided between the top of each plurality of electrode fingers and the top of the opposed dummy electrode, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

6. A surface acoustic wave device comprising:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

three sets of comb electrodes formed between the pair of reflective electrodes,

each comb electrode forming the comb electrode set including:

a plurality of electrode fingers; and

a bus bar connecting the plurality of electrode fingers in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

Thick film thicker than each plurality of electrode fingers is produced in partial areas of the bus bar, and

a tip gap is provided between the top of each plurality of electrode fingers and the end face of the opposed bus bar, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

7. A surface acoustic wave device comprising a plurality of resonators connected into a ladder shape, each resonator including:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode of the comb electrode set constituting the resonator having:

a plurality of electrode fingers; and

a bus bar connecting the plurality of electrode fingers in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers

of the other comb electrode, and

Thick film thicker than each plurality of electrode fingers is produced in partial areas of the bus bar, and

a tip gap is provided between the top of each plurality of electrode fingers and the end face of the opposed bus bar, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

8. A surface acoustic wave device comprising a plurality of resonators connected into a lattice shape, each resonator including:

a pair of reflective electrodes formed on a single-crystal piezoelectric substrate; and

at least one set of comb electrodes formed between the pair of reflective electrodes,

each comb electrode of the comb electrode set constituting the resonator having:

a plurality of electrode fingers; and

a bus bar connecting the plurality of electrode fingers in common,

wherein, the electrode fingers of one comb electrode are laid in a state of being inserted to the electrode fingers of the other comb electrode, and

Thick film thicker than each plurality of electrode fingers is produced in partial areas of the bus bar, and

a tip gap is provided between the top of each plurality of electrode fingers and the end face of the opposed bus

bar, with a distance therebetween set not greater than 0.2λ (where, λ is one period of the comb electrode).

9. The surface acoustic wave device according to either one of claims 2 to 5,

wherein, thick film thicker than each plurality of electrode fingers is further produced in partial areas of the bus bar.

10. The surface acoustic wave device according to claim 3 or claim 6,

wherein, a ratio L/S of an electrode width L of the electrode finger to a space S between neighboring electrode fingers is set to between 0.6 and 0.8.

11. The surface acoustic wave device according to either one of claim 1 and claims 6 to 8,

wherein, each partial area of the bus bar in which the thick film is produced is disposed with a distance of not greater than 0.75λ from the connection end face of the bus bar connecting to each plurality of electrode fingers (where, λ is one period of the comb electrode).

12. The surface acoustic wave device according to either one of claim 1 and claims 6 to 8,

wherein, the plurality of electrode fingers and the bus bar connecting the electrode fingers is formed of metal

of which principal component is aluminum, and each partial area of the bus bar in which the thick film is produced has an additional thickness of 0.05λ not smaller than the film thickness of the plurality of electrode fingers (where, λ is one period of the comb electrode).

13. The surface acoustic wave device according to claim 12,

wherein, preferably, each partial area of the bus bar in which the thick film is produced has an additional thickness of 0.35λ not greater than the film thickness of the plurality of electrode fingers (where, λ is one period of the comb electrode).

14. The surface acoustic wave device according to either one of claim 1 and claims 6 to 8,

wherein each partial area of the bus bar in which the thick film is produced is formed of heavy metal.

15. The surface acoustic wave device according to either one of claim 1 and claims 6 to 8,

wherein each partial area of the bus bar in which the thick film is produced is formed of insulating material.

16. The surface acoustic wave device according to either one of claims 1 to 8,

wherein the single-crystal piezoelectric substrate

is formed of $LiTaO_3$ or $LiNbO_3$, and a leaky surface acoustic wave of the substrate is used.